

Math Curriculum: Investigations, CPM, Supports, and Replacement

Laura Sproul-Erb & Peggy Galligan
Program Support and Diagnostics



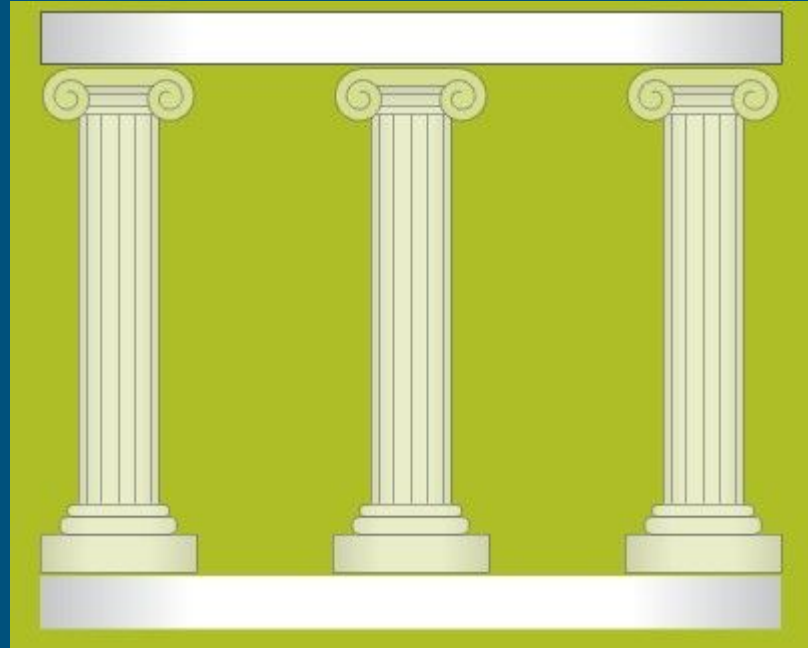
Investigations! 3

3 Pillars of Investigations

Routine

Discourse

Games



Investigations 3

Curriculum is designed to engage students in making sense of mathematical ideas. Students have mathematical ideas. Investigations is intended to have them apply what they know to new situations and unfamiliar problems.

The Investigation Classroom for Students

Students work together solving problems with real world application of mathematical concepts rather than doing problems in isolation

Actively engage in mathematics through reading, writing and oral communication rather than sit and listen

Communicate mathematical concepts to one another rather than find answers alone

Cont.

Listen to one another and question each other rather than answer only to teacher questions

Use technology for explanation and insight rather than use technology for simple calculations

Reason through problems to reach solutions rather than memorize procedures

Math Language Strategies

Using the Math Vocabulary during class time

Pre-teaching math vocabulary

**Coaching peers to engage students with disabilities during
Math games and workshops-Partner Talk**

Model Think Aloud

Differentiation Suggestions for Math Workshop

Adapt the learning Situation

Adapt the Problem

Adapt the Material

Clarify the Problem

Vary the Problem

Scaffold a solution

Extended Thinking

Suggest a Tool

Math Practice Notes

Math Practice Notes are embedded throughout each unit to highlight opportunities to engage students in Math Practices.

Identify what skills, strategies, and practices Activities and Workshops are targeting.

Investigations!

Professional Development 2017-18

All teaching staff attended summer two, full-day workshops

All teaching staff will also be attending 4 extended unit planning workshops during PLC time

Teaching staff also attended grade-level PD during staff development day

All educational assistants also attended half-day PD introducing Investigations

Instructional coaches facilitate on-going PD for grade-level teams and participate in classroom-based coaching

College Prep Math (CPM)

College Prep Math CPM (grades 6-12)

CPM envisions a world where mathematics is viewed as intriguing and useful, and is appreciated by all; where powerful mathematical thinking is an essential, universal, and desirable trait; and where people are empowered by mathematical problem-solving and reasoning to solve the world's problems.

CPM Rationale:

Strong Common Core alignment

Coherent and well-sequenced

Strong conceptual understanding

Adaptability- can be adapted to meet the needs of all learners

Quality assessments

Navigability and usability for teachers

Parent support

Professional development component

WSD Teacher Comments-CPM

“CPM makes it comfortable for students to ask questions and problem solve. It provides a vehicle for higher levels of thinking, participation, and communication.”

“CPM embodies a “low floor- high ceiling design” in each lesson, so the text and homework resources address student needs within a range of mathematical abilities.”

“CPM supports student engagement in math that is maintained over time.”

Replacement Curriculum

Attainment: Early Numeracy

Major concepts:

- Counting with one-to-one correspondence
- Identifying symbols =, >, <
- Counting movable and immovable objects
- Recognizing, extending, and creating patterns
- Identifying and naming numerals 1 to 10
- Measuring using a calendar
- Rote counting to 20
- Measuring with nonstandard units
- Creating and adding sets to 10
- Measuring with standard units
- Comparing sets for =, >, and <

Moving with Math Learning System

Math By Topic (piloted Spring & Fall 2017)

C-R-A Instructional Delivery Model (Concrete-Representational-Abstract)

Topics/Strands: 1. Numeration, 2. Addition and Subtraction, 3. Fractions, Geometry & Measurement

Manipulatives support daily lessons